What is Claimed:

1. A method of classifying radar emitters comprising the steps of:

(a) receiving a plurality of signals from the radar emitters;

(b) generating data components for each signal received from the radar emitters;

(c) forming multi-dimensional samples using the generated data components; and

(d) sorting the multi-dimensional samples into a plurality of data clusters, based on their respective proximity to the data clusters, each data cluster representing a classification of a radar emitter.

2. The method of claim 1 wherein

step (b) includes generating pulse data descriptors (PDWs) during a predetermined interval of time.

3. The method of claim 2 wherein

generating the PDWs includes generating at least radio frequency (RF) data and pulse width (PW) data, during the predetermined interval of time for each received signal.

4. The method of claim 1 wherein

step (c) includes forming vectors, each vector comprised of a sum of weighted PDWs.

5. The method of claim 4 including

adaptively weighting each PDW, based on electronic warfare (EW) intelligence of signals expected to be received from the radar emitters.

6. The method of claim 4 including

normalizing each vector, based on an average vector of all the vectors formed in step (c) during a predetermined interval of time.

7. The method of claim 1 wherein

step (d) includes assigning a multi-dimensional sample to a data cluster, based on a Euclidean distance between the multi-dimensional sample and a center of the data cluster.

8. The method of claim 7 including

forming the center of the data cluster as a mean vector of a set of multi-dimensional samples assigned to the data cluster.

9. The method of claim 8 including

re-assigning a multi-dimensional sample from the data cluster to another data cluster, based on a sum of squared errors resulting from the set of multi-dimensional samples assigned to the data cluster.

10. The method of claim 1 wherein

step (d) includes sorting the multi-dimensional samples using an ISODATA (iterative self-organizing data analysis technique) computer algorithm.

11. A system for classifying radar emitters comprising:

a receiver for receiving a plurality of signals from the radar emitters, and

a processor coupled to the receiver for

(a) generating data components for each signal received from the radar emitters,

(b) forming multi-dimensional samples from the generated data components; and

(c) sorting the multi-dimensional samples into a plurality of data clusters, based on their respective proximity to the data clusters, each data cluster representing a classification of a radar emitter.

12. The system of claim 11 wherein

the data components are generated as pulse data descriptors (PDWs) during a predetermined interval of time, and

each PDW includes at least radio frequency (RF) data and pulse width (PW) data.

13. The system of claim 12 wherein

each PDW is adaptively weighted, based on electronic warfare (EW) intelligence of signals expected to be received from the radar emitters.

14. The system of claim 11 wherein

the processor assigns a multi-dimensional sample to a data cluster, based on a Euclidean distance between the multi-dimensional sample and a center of the data cluster.

15. The system of claim 14 wherein

the center of the data cluster is formed as a mean vector of a set of multi-dimensional samples assigned to the data cluster.

16. The system of claim 11 wherein

the processor sorts the multi-dimensional samples using an ISODATA (iterative self-organizing data analysis technique) computer algorithm.

17. A machine readable storage medium containing a set of instructions for a computer, the set of instructions implementing the following steps:

(a) processing a plurality of signals received from a receiver;

(b) generating data components for each signal received from the receiver;

(c) forming multi-dimensional samples using the generated data components; and

(d) sorting the multi-dimensional samples into a plurality of data clusters, based on their respective proximity to the data clusters, each data cluster representing a classification of a radar emitter.

18. The medium of claim 17 wherein

step (b) includes generating pulse data descriptors (PDWs) during a predetermined interval of time, and

each of the generated PDWs includes at least radio frequency (RF) data and pulse width (PW) data.

19. The medium of claim 17 wherein

step (d) includes assigning a multi-dimensional sample to a data cluster, based on a Euclidean distance between the multi-dimensional sample and a center of the data cluster.

20. The medium of claim 17 wherein

step (d) includes sorting the multi-dimensional samples using an ISODATA (iterative self-organizing data analysis technique) computer algorithm.